#22/K

463.4.TXT

SEQUENCE LISTING

<110> Joyce, Gerald F.
     Breaker, Ronald R.

<120> ENZYMATIC DNA MOLECULES

<130> TSRI 463_4

<140> US 09/423,035
<141> 2000-01-13

<150> PCT/US98/08677
<151> 1998-04-29

<150> US 60/045,228
<151> 1997-04-29

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tatagtcgta                                                              10

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<210> 89
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aguggcaaug agagu                                              15

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<211> 17
<212> RNA
<213> Human Immunodeficiency Virus

<400> 106
gaggauagau ggaacaa                                            17

<210> 107
<211> 15
<212> RNA
<213> Human Immunodeficiency Virus

<400> 107
aggauagaug gaaca                                              15

<210> 108
<211> 15
<212> RNA
<213> Human Immunodeficiency Virus

<400> 108
gcaagaaaug gagcc                                              15

<210> 109
<211> 15
<212> RNA
```

<213> Human Immunodeficiency Virus

<400> 109
cuauaagaug gguga   15

<210> 110
<211> 20
<212> RNA
<213> Feline infectious peritonitis virus

<400> 110
uacagcaaca ugggggaaugg   20

<210> 111
<211> 18
<212> RNA
<213> Feline infectious peritonitis virus

<400> 111
caugggggaau ggacaggg   18

<210> 112
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 112
caaauaaaag ggaugaaguc ugg   23

<210> 113
<211> 21
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 113
aaggaaugaa gucuggcucc g   21

<210> 114
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 114
auaccgcaaa gucuuugaga auu   23

<210> 115
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 115

aagucuuuga gaguuuccug cac   23

<210> 116
<211> 19
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 116
aacaccacca uguccagcc   19

<210> 117
<211> 20
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 117
ggccuuucac auuguaccgc   20

<210> 118
<211> 21
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 118
uuguaccgca ucgauaucca c   21

<210> 119
<211> 23
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 119
gaacauuaca uuauagugac cag   23

<210> 120
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 120
tccgagccgg acga   14

<210> 121
<211> 16
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthesized

<221> misc_feature
<222> 1
<223> R= A or G

<400> 121
rggctagcta caacga   16

<210> 122
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 1
<223> R = A or G

<221> misc_feature
<222> 9
<223> H = A, C, or T

<400> 122
rggctagcha caacga   16

<210> 123
<211> 79
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_difference
<222> 18
<223> N = Adenosine Ribonucleotide

<400> 123
ctaatacgac tcactatngg aagagatggc gacatctctt cagcgatgca cgcttgtttt 60
aatgttgcac ccatgttag   79

<210> 124
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 124
gtgccaagct taccgagtaa cttcgtccgg ctcggragat gggtcgtctg tccttccatc 60
tctagttact ttttc   75

<210> 125
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

```
<400> 125
gttgccaagc ttaccgggaa aaatcgttgt agctagccta actaggtcgt ctgtccttcc 60
atctctagtt acttttttc                                                78

<210> 126
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 126
ggaaggacag acgacccatc                                                20

<210> 127
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 127
gtgccaagct taccgggaaa aa                                             22

<210> 128
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 22
<223> N = Adenosine Ribonucleotide

<400> 128
ggaaggacag acgacctagt tn                                             22

<210> 129
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 129
gaaaaagtaa ctagagatgg aaggacagac gacc                                34

<210> 130
<211> 80
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 130
cacggttcga atggcgttat gcatcacact attttcatt gaagcaggcc gagccttcca 60
```

```
ccttccagcg gtagagaagg                                                    80
```

<210> 131
<211> 77
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 131
```
cacggttcga atggcatgtt aagttcgtcc ctttttagca acatcgatcg gattggtttc 60
cccagcggta gagaagg                                                    77
```

<210> 132
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> (1)...(21)
<223> Positions 1 to 21 are RNA; the rest of the
      molecule is DNA

<221> misc_feature
<222> 1
<223> Optional 5 prime biotinylation

<400> 132
```
ggaaaaagua acuagagaug gaagagatgg cgac                                 34
```

<210> 133
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> (29)...(68)
<223> N = A, G, T, or C

<400> 133
```
tcactatngg aagagatggc gacatctcnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnngt ga                                                        72
```

<210> 134
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 134
```
cttccacctt ccgagccgga cgaagttact tttt                                34
```

<210> 135
<211> 24

<212> RNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 135
ggaaaaagua acuagagaug gaag   24

<210> 136
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 136
ctttggttag gctagctaca acgattttc c   31

<210> 137
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 137
ctagttaggc tagctacaac gattttcc   29

<210> 138
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 138
ccaccttccg agccggacga agttact   27

<210> 139
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 28
<223> N = Adenosine Ribonucleotide

<400> 139
gggacgaatt ctaatacgac tcactatngg aagagatggc gaca   44

<210> 140
<211> 48
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthesized

<221> misc_feature
<222> (5)...(44)
<223> N = A, G, T, or C

<400> 140
tctcnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnngtga   48

<210> 141
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 28
<223> N = Adenosine Ribonucleotide

<400> 141
gggacgaatt ctaatacgac tcactatngg aagagatggc gacatctc   48

<210> 142
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 142
gtgacggtaa gcttggcac   19

<210> 143
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> (1)...(40)
<223> N = A, G, T, or C

<400> 143
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn   40

<210> 144
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_RNA
<222> (8)...(19)
<223> Positions 8 to 19 are RNA, the remainder of the
      molecule is DNA

```
<221> misc_feature
<222> 1
<223> Optional  5 prime biotinylation

<400> 144
ggaaaaagua acuagagaug gaagagatgg cgac                                34

<210> 145
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 1
<223> Optional  5 prime biotinylation

<400> 145
ggaagagatg gcgac                                                     15

<210> 146
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> (1)...(50)
<223> N = A, G, T, or C

<400> 146
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn                50

<210> 147
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<400> 147
gtgccaagct taccgagtaa ct                                             22

<210> 148
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 21
<223> Position 21 is ribo uracil, the remainder of the
      molecule is DNA

<400> 148
ggaaggacag acgacccatc u                                              21
```

```
<210> 149
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 22
<223> Position 22 is ribo adenosine, the remainder of
      the molecule is DNA

<400> 149
ggaaggacag acgacctagt ta                                          22

<210> 150
<211> 11
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized

<221> misc_feature
<222> 1
<223> Optional  5 prime biotinylation

<400> 150
ggaaggacag a                                                      11
```